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New York State Department of Environmental Conservation

MEMORANDUM

TO: Mr. Yavus Erk -Region 9, Buffalo
FROM: Mr. Raymond Lupe - Bureau of Hazardous Site Contro R.C. Lupe
SUBJECT: Reichhold Chemicals (Varcum Chemicals)
Niagara Falls, Niagara County
DATE: January 24, 1985

I have reviewed the report entitled "Hydrogeologic Investigation of Reichhold Chemicals Inc, Niagara Falls, NY" prepared by Advanced Environmental Systems Inc., and Conestoga Rovers and Associates Limited. The following comments are offered for your consideration:

1. The report documents an extremely serious groundwater contamination problem in both the overburden and bedrock at the site, especially with phenols which were detected at hundreds to thousands of parts per million. In addition, a variety of other organic chemicals (xylenes, ethylbenzene, toluene, and dichlorobenzenes) were detected at hundreds of parts per billion.

2. The source of the phenols is thought to be the phenol storage tanks/area. However, the source(s) of the other organic chemicals have not been defined. The chemical storage tanks and sewers should be tested to determine if leakage from tanks/sewers is the source of these organic chemicals. In addition, based on our recent conversations it is my understanding that a waste lagoon was formerly located on the property. This lagoon is not discussed in the report. It is recommended that test borings and monitoring wells be installed around this lagoon, and soil and water samples collected for analyses to determine if contamination is also emanating from the lagoon.

3. The seriousness of the phenols contamination problem needs prompt attention. Existing phenol storage tanks should be decommissioned as soon as possible to alleviate the continual source of contamination. In addition, heavily contaminated soils should be excavated and disposed of at a secure landfill as part of the initial remediation of the site. This will necessitate that a soil sampling program be carried out around the facility to define the extent of surface soil and overburden contamination.

4. The direction of groundwater movement needs better definition. It appears that groundwater in the upper 15 feet of bedrock is moving in a southwesterly direction at a 0.015 feet/foot gradient, while the overall 50 foot borings indicate movement in a southeasterly direction at a gradient of 0.12 feet/foot. However, this latter gradient may be artificially high because the northernmost well (OW 9-84) was water bearing in the top 15 feet only. Consideration should be given to installing another well in the north section of the site to confirm this conclusion, since the water yielding characteristics will be dependent on fractures intercepted during the installation of the well. Another well in this area might yield vastly different data on groundwater levels. In addition, it may better define the potential for the migration of contaminants deeper into bedrock in the northern section of the site.

5. Contaminants seem to be emanating from the property in all directions, especially to the east-southeast. Off-site wells are needed to better define the extent of contamination and the direction of groundwater movement. This is especially important to the east-southeast because of the close proximity of this site to CECOS and Dupont-Necco Park. In addition, it is recommended that selection of well locations and the collection of groundwater data (sampling and groundwater elevation measurements) be coordinated with on-going and proposed studies at those facilities to better define the source(s) of contamination problems around all three sites.

6. A review of the sampling data reveals that the concentration of some organic chemicals and phenols in groundwater increases substantially with depth in the bedrock. This cannot be explained solely by the density of the contaminants because some of these (xylenes and ethylbenzene) are lighter than water. This should be evaluated in more detail before wells are extended deeper into bedrock because this may be introducing contaminants into the deeper bedrock by the drilling methods used. The procedures to be used in the installation of additional monitoring wells should be discussed with NYSDEC prior to well installation.

7. The detection limits used for the analyses of volatiles (1000 ppb); acids 5000 ppb; and PCB (10 ppb) in the screening sample from Well #7 seems high.

8. The 0.48 ppm of phenols in surface water (Table 10) is a violation of water quality standards. Additional surface water and sediment studies are needed.

9. The seriousness of the groundwater contamination requires that additional remedial measures besides elimination of the source (storage tanks, contaminated overburden soils, etc) are necessary. Future studies should evaluate remedial alternatives and recommend appropriate remedial measures for the site.

10. Based on discussions with staff in the Chemical Technology Section, it is my understanding that this company is currently undergoing RCRA permitting by USEPA. Is any of the contamination originating from facities being permitted by USEPA? If so, coordination with USEPA may be necessary.

11. Well cuttings and fluids were drummed for disposal by Reichhold Chemical. How/where were these drummed materials disposed?

12. If any of the contamination may originate from inactive or active solid waste or hazardous waste management units such as a waste lagoon or hazardous waste storage tanks, review of this project should be coordinated with Mr. Mitrey (Region 9) and/or Mr. Counterman (Bureau of Hazardous Waste Technology).

13. Future investigations of the site should be done in accordance with a workplan submitted to and approved by NYSDEC. This plan

should also address QA/QC concerns and should be approved prior to initiating the field work.

If you have any questions, please call me at (518) 457-9538.